Appendix A

Amended Claims: Version with Markings to Show Changes Made

1. (Amended) A single-chip integrated circuit for controlling an optoelectronic transceiver having a laser transmitter and a photodiode receiver, comprising:

memory, including one or more memory arrays for storing information related to the transceiver;

analog to digital conversion circuitry for receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined locations within the memory;

control circuitry configured to generate control signals to control operation of the laser transmitter in accordance with one or more values stored in the memory;

an interface for [reading] allowing a host to read directly from and [writing] write directly to locations within the memory; and

comparison logic for comparing the digital values with limit values to generate [, generating] flag values [based on the limit values], [and storing] wherein the flag values are stored in predefined locations within the memory during operation of the optoelectronic transceiver.

14. (Twice Amended) A single-chip integrated circuit for monitoring an optoelectronic device, comprising:

memory, including one or more memory arrays for storing information related to the optoelectronic device;

analog to digital conversion circuitry for receiving a plurality of analog signals from the optoelectronic device, the analog signals corresponding to operating conditions of the optoelectronic device, converting the received analog signals into digital values, and storing the digital values in predefined locations within the memory; and

a memory interface for allowing a host to [reading] read directly from and [writing] write directly to locations within the memory in accordance with commands received from a host device.

25. (Amended) A single-chip integrated circuit for controlling an optoelectronic transceiver having a laser transmitter and a photodiode receiver, comprising:

analog to digital conversion circuitry for receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined memory mapped locations within the integrated circuit;

comparison logic for comparing the digital values with limit values [, generating] to generate flag values [based on the limit values] , [and storing] wherein the flag values are stored in predefined memory mapped locations within the integrated circuit during operation of the optoelectronic transceiver;

control circuitry configured to generate control signals to control operation of the laser transmitter in accordance with one or more values stored in the integrated circuit; and

a memory mapped interface for allowing a host to [reading] read directly from and [writing] write directly to locations within the integrated circuit and for accessing memory mapped locations within the integrated circuit for controlling operation of the control circuitry.

26. (Amended) A method of controlling an optoelectronic transceiver having a laser transmitter and a photodiode receiver, comprising:

in accordance with instructions received from a host device, enabling the host device to read [reading] directly from and [writing] write directly to locations within a memory; and

receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined locations within the memory;

comparing the digital values with limit values [, generating] to generate flag values [based on the limit values] , and storing the flag values in predefined locations within the memory during operation of the optoelectronic transceiver;

generating control signals to control operation of the laser transmitter in accordance with one or more values stored in the memory.

27. (Amended) The method of claim 26, further including:

generating a time value corresponding to cumulative operation time of the transceiver, wherein the generated time value is readable by the host device via [the] a memory interface.

50. (Amended) A method of controlling an optoelectronic transceiver having a laser transmitter and a photodiode receiver, comprising:

in accordance with instructions received from a host device, enabling the host device to read [reading] directly from and [writing] write directly to locations within a controller of the optoelectronic transceiver;

receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined memory mapped locations within the controller;

comparing the digital values with limit values to generate [, generating] flag values [based on the limit values] , and storing the flag values in predefined memory mapped locations within the controller during operation of the optoelectronic transceiver; and

generating control signals to control operation of the laser transmitter in accordance with one or more values stored in the predefined memory mapped locations within the controller. [;]

[analog to digital conversion circuitry for receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined memory mapped locations within the controller.]

52. (Amended) A single-chip integrated circuit for monitoring an optoelectronic device, comprising:

memory, including one or more memory arrays for storing information related to the optoelectronic device;

analog to digital conversion circuitry configured to receive a plurality of analog signals, the analog signals corresponding to operating conditions of the optoelectronic device, converting at least one of the received analog signals into at least one digital value, and storing the at least one digital value in at least one predefined location within the memory; and

a memory interface for allowing a host device to [reading] read directly from and [writing] write directly to locations within the memory in accordance with commands received from a host device.

55. (Amended) A single-chip integrated circuit for monitoring an optoelectronic device, comprising:

memory, including one or more memory arrays for storing information related to the optoelectronic device;

analog to digital conversion circuitry for receiving at least one analog signal, the at least one analog signal corresponding to operating conditions of the optoelectronic device, converting the at least one analog signal into at least one digital value, and storing the at least one digital value in at least one predefined location within the memory; and

a memory interface for allowing a host device to [reading] read directly from and [writing] write directly to locations within the memory in accordance with commands received from a host device.

60. (Amended) A method of monitoring an optoelectronic device, comprising:

storing, in one or more memory arrays, information related to the optoelectronic device;

receiving at least one analog signal, the at least one analog signal corresponding to operating conditions of the optoelectronic device;

converting the at least one analog signal into at least one digital value, and storing the at least one digital value in at least one predefined location within the memory; and

reading directly from and writing directly to locations within the memory in accordance with commands received from a host device.